

AMERICAN SHORE AND BEACH PRESERVATION ASSOCIATION ABSTRACT SUBMITTAL

SECTION 227 DEMONSTRATION PROJECT - SACRED FALLS, OAHU, HAWAII

Section 227 of the Water Resource and Development Act of 1996, authorized the National Shoreline Erosion Control Development and Demonstration Program. The Program is aimed at advancing the state-of-the-art in coastal shoreline protection. As part of the Section 227 Program, Sacred Falls Beach Park on the Island of Oahu, Hawaii, has been chosen as a demonstration site. Sacred Falls Beach Park is located in the village of Hauula at the south end of Makao Beach on the island of Oahu, Hawaii. The project site consists of approximately 370 feet of undeveloped shoreline. Continual, yet manageable, erosion of the beach at Sacred Falls Beach Park has reduced beach width to a point that the road is currently threatened. Some deterioration of the coast highway is evident. Recreation use of this tourist destination is currently minimal due to lack of existing beach width.

Both in structure geometry and construction materials used, it is proposed that the project design emulates and improve on naturally occurring structures similar to those found at Kihei, Maui. These low, mild-sloped, and wide structures are comprised of deposits of coral rubble. The plan is to build a low-crested semi-emergent "Y-head" structures in the center of the project reach and place beach quality material in its lee. The use of low profile "Y-head" groins built using innovative techniques and materials is to be demonstrated at the Sacred Falls site.

The conceptual design phase of the project has been completed with detailed design to be accomplished in 2005. The conference presentation and paper will focus on documentation of field investigations, conceptual design phase and physical modeling of the proposed alternatives. The prototype site on Maui will be thoroughly described with specific design parameters identified that are to be transferred to the demonstration project site. Conceptual design alternatives will be presented along with possible small-scale construction techniques that can facilitate implementation of shore protection strategies in remote island settings. Future phases of the project including construction, monitoring and evaluation will also be discussed.

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BIOGRAPHY

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Tom received an undergraduate degree in Ocean Engineering from the Florida Institute of Technology in 1989. He received a Master of Ocean Engineering degree from Texas A&M in 1994 in association with the USACE Coastal Engineering Education Program.

Tom worked at the Jacksonville District for 14 years. Tom is currently a hydraulic engineer at the Honolulu District working on coastal and navigation projects.